Vale District Bureau of Land Management
Wildhorse Spring Fire Rehabilitation Plan N077
Environmental Assessment
EA No. OR-030-00-018

I. PURPOSE AND NEED

A. Background

A lightening storm ignited the Wildhorse Spring Fire (N 077) in T.18S., R.43E. and R.42E., W.M. during the evening of August 24, 2000. The fire burned a total of 1,873 acres of which 638 acres is private, and 1,235 acres is public domain in the Malheur Resource Area of the Bureau of Land Management, Vale District. Containment was achieved on August 25 with control on August 26. Two dozers, a grader, a four engines, one helicopter, and two air tankers were used during suppression activities. Approximately four miles of grader and dozer lines were used for fire control around the perimeter of the fire. The control lines were reshaped and smoothed to the extent possible during the rehabilitation phase of the fire. Due to dry soil conditions, there is a need to seed the bladed lines when sufficient moisture is available during the fall of 2000.

The burned area is within a fire management zone that experiences 5.3 fires per year for a total of 5,445 acres burned. Ten fires have occurred within the immediate area of this fire within the past 15 years. Annual herbaceous species such as cheatgrass and tumble mustard comprised 60% of the burned area. Plant communities adjacent to the east and south sides of the fire had previously burned and were also comprised primarily of annual grasses and forbs. The area adjacent to the north and west side of the fire was a native sagebrush steppe plant community consisting of Wyoming big sagebrush, rabbitbrush, bluebunch wheatgrass and other desirable perennial grasses and forbs. This community also comprised approximately 40% of the burned area. Numerous unburned, small patches of big sagebrush exist within the burned area and should provide an adequate seed source to re-occupy the site. Squawapple, an uncommon desirable shrub, occurred in isolated areas on sandy loamy soils throughout the burned area. Two very competitive noxious weeds, white top and Scotch thistle, were dispersed throughout the area, particularly in the annual grassland community. The burned sagebrush steppe vegetation communities provided year-long or winter habitat for a number of wildlife species including big game animals, upland game species, sage grouse, and other sagebrush dependent species.

B. Purpose and Need

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BLM manual 1742 provides for emergency fire rehabilitation where fire has an adverse impact on vegetation, soils, and watersheds and also to minimize other adverse changes to the extent practicable, including the following:

- loss of vegetative cover for watershed protection;
- loss of soil and on-site productivity;
- loss of water control and deterioration of water quality.

! invasion of burned area by flammable annual species which increase the potential for repeated wildfire.

The area burned by the Wildhorse Spring Fire is in need of rehabilitation to minimize soil loss, preserve on-site productivity, reduce the invasion and increased dominance of undesirable flammable annual plants and reduce the potential for noxious weed invasion. These objectives can be met by protecting residual native vegetation communities during a period necessary for recovery of health and vigor, and establishing desirable perennial plant cover in annual vegetation communities. This environmental assessment analyzes the benefits and risks of implementing rehabilitation actions to establish desirable, non-native perennial species, and includes a limited rehabilitation and a no action alternative.

II. CONSISTENCY WITH LAND USE PLANS

In addition to other National Environmental Policy Act requirements, this environmental assessment was completed to ensure that treatments identified in the Emergency Fire Rehabilitation Plan are consistent with the applicable land use plan objectives and decisions. Seeding and planting of grass, forb and shrub species as proposed in the preferred alternative is consistent with the following recommendations of the Northern Malheur Management Framework Plan dated March 14, 1983.

- SWA 3.2/4.1 Implement a vegetation manipulation program on approximately 80,000 acres of low-elevation (below 3,000 feet) lacustrine sediment material on the public land by reseeding an adapted perennial grass that will help protect these soils from wind and water actions and will also extend the wildfire resistance of the plant communities into the growing season.

- W/L 1.1 Seed or plant seedlings of suitable shrub and/or tree species on select sites within areas designated “C” on the Habitat Opportunity overlay. Species under consideration should include juniper, curl leaf mountain mahogany, aspen, cottonwood, willow, choke and bitter cherry. Livestock grazing of the treated areas should be prohibited for a minimum of two growing seasons and then allow spring season use there after.

- W/L 10.1 Within areas marked “F” on overlay, increase the survival of palatable browse species reproduction by 20% from the existing 5% (estimated) by 1990 through the initiation of livestock grazing systems utilizing “prescription” grazing toward a vegetative objective. Coordinated AMP/HMP planning will be required.

- W/L 10/2 Future seedings should include a variety of grasses, forbs, and browse (shrub) species in the seeding mixture. A mixture of approximately ½ grasses, ¼ forbs, and ¼ browse - each being represented by from 4 to 6 species - is considered ideal.

- W/L 10.4 Wild fire should be aggressively suppressed in critical browse and/or cover habitats.

- W/L 11.4 Attain and/or maintain a vegetative composition of 55% grasses, 25% forbs, and 20% shrubs.

The Bully Creek Allotment Management Plan implemented in 1982 does not provide management direction for seeding and establishment of shrub species though it does identify management objectives to attain late or climax conditions on the majority of the area and increase palatable shrub species reproduction from 5 to 20 % by 1990. The allotment management plan made reference to large cheatgrass areas that have resulted from previous wildfire. The management objective for the Wildhorse Pasture in Allotment #2 is to improve vegetative condition from early to middle as stated in the 1982 Allotment #2 Management Plan.

Temporary fencing to ensure temporary exclusion of livestock from burned areas pending establishment of seed species and recovery of residual vegetation is also consistent with the Northern Malheur Management Framework Plan and affected activity plans.

III. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Alternatives considered and analyzed include the proposed action, a limited rehabilitation alternative, and a no action alternative. A summary of treatments by alternative is presented in Table 1.

Table 1: Summarized treatments by alternative

Action \ Alternative	Proposed Action	Limited Rehab	No Action
Non-native seeding (acres)	1,000	0	0
Fence reconstruction (miles)	1.5	1.5	0
Temporary fencing (miles)	4.0	4.0	0
Temporary livestock exclusion (acres)	1,873	1,873	0
Fire Line Seeding (miles)	4	0	0
Monitoring	Yes	Yes	No

A. Proposed Action

The proposed action would be to seed approximately 600 acres of public land and 400 acres of private land in the burned area using rangeland drills during the fall of 2000 or spring of 2001. The burned area was previously dominated by two primary plant communities types: (1)Wyoming big sagebrush with an understory of native perennial bunchgrasses and forbs; and (2)annual grasses and forbs that had invaded previously burned Wyoming big sagebrush sites. The annual grasslands would be seeded to a non-native seed mixture, while the Wyoming big sagebrush sites with existing perennial grasses and forbs would be allowed to recover on their

own. The proposed seed mix is presented in Table 2. The mix may be altered slightly depending upon seed availability. Similarly, other varieties of crested wheatgrass may be substituted as available. All seed would be treated with organic seed coating to enhance germination success and seedling survival. The remaining 873 acres of public land within the fire boundary would not be seeded due to steepness of slopes, rocky terrain, sandy soils, and presence of existing stands of big sagebrush and native perennial grass species adequate to provide a seed source for natural regeneration.

Table 2: Proposed seed mixes for the Wildhorse Spring Fire Rehabilitation Plan (Proposed Action)

Species	Pounds Per Acre	Total Pounds	Approx Cost Per Pound	Total Cost
Non-Native Seed Mix-1,000 acres				
Fairway Crested Wheatgrass	7.5	7,500	$1.50	$11,250
Secar Bluebunch Wheatgrass*	1.0	1,000	$8.00	$8,000
Ladak Alfalfa	1.0	1,000	$2.00	$2,000
Apar Lewis Flax	.5	500	$8.00	$4,000
Western Yarrow	.5	500	$9.00	$4,500
Wyoming Big Sagebrush*	.5	500	$15.00	$7,500
Total	11.0	11,000		**$37,250**

*These species will be used based on seed availability.

Wyoming big sagebrush may not be included in the mix because of limited availability of seed due to high demand from the extensive areas that burned throughout the region this past summer. There is ample opportunity for recruitment of native seed from existing pockets of sagebrush adjacent to and within the burn. The personnel involved in the seeding would be instructed to avoid surviving shrubs and will be closely supervised to insure compliance.

The fire burned three (3) separate pastures across two (2) allotments. The pastures affected included the Wildhorse and North Bully pastures in Allotment #2 and the Bully pasture in the Bully Creek Allotment. Acres (public and private) burned included 113 acres in the North Bully pasture, 1,440 acres in the Bully pasture, and 320 acres in the Wildhorse pasture. Total acres within each pasture are: 9,930, 5,343, and 7,988 for the Wildhorse, N.Bully and Bully pastures, respectively. Approximately 4.0 miles of temporary fencing is proposed to exclude livestock grazing from fire impacted vegetation communities and the proposed reseeding effort in the Bully pasture. Livestock would be excluded from all burned acres in the Wildhorse pasture by fencing off the water source in the northeast corner of the pasture. The 79 acres of BLM land that burned in the North Bully pasture would not be fenced because of the steepness of slope and small percentage of burned area in the pasture. Grazing would be excluded in the Bully and Wildhorse pasture through July 15, 2002 or until monitoring indicates that desired vegetation has recovered to levels that are adequate to support and protect upland watershed functions.

Construction and removal of the temporary fence would be part of the emergency fire rehabilitation request and the livestock permittee would maintain the fence during the time the pastures are grazed.

Approximately 1.5 miles of permanent fence constructed with wooden posts was completely destroyed by the fire and would be replaced. The fence separates Allotment #2 from the Bully Creek Allotment and would be reconstructed to reestablish the integrity of the boundary between the two allotments. The livestock permittee will reconstruct the allotment boundary fence.

The private land within the burned area which is proposed for seeding is susceptible to invasion by undesirable annual and weedy species that frequently burn. Establishing desirable perennial grasses, that do not have a frequent fire interval, would reduce hazardous fuels and result in potentially less frequent fires on private and adjacent BLM land. In addition, establishing desirable perennial grasses and forbs on private land would result in a potentially smaller amount of weed seed in the soil seed bank that could contaminate adjacent BLM lands.

Coordination with the private land owner would be pursued to obtain authorization to seed private lands to protect public land resource values in accordance with the Wyden Amendment of the Department of Interior and Related Agencies Appropriations Bill, FY 99 (Public Law 105-277).

An estimated 5 miles of dozer line adjacent to the fire, disturbed by dozers and the grader during suppression actions, would also be seeded to the proposed perennial seed mixture with suppression funds.

Dozer and grader line rehabilitation that was not completed immediately following control of the fire due to lack of soil moisture would be completed while equipment is on site to do the seedings. This work would be done using funds other than emergency fire rehabilitation.

Monitoring of the burn area would consist of livestock use supervision, vegetation monitoring and weed monitoring (for additional detail, refer to Section VII). Detected weeds would be controlled utilizing herbicide and mechanical methods.

See attached map for location of fire, private and public lands, and proposed area to seed and fence.

B. Limited Rehabilitation Alternative

Emergency rehabilitation would be limited to the proposed temporary fence excluding cattle from the burned area in the Bully pasture. The water gap in the Wildhorse pasture would be fenced off to keep livestock from utilizing the east side of the pasture. Revegetation of the burned area would be allowed to occur from seed and plant material which remains in the soil seed bank. Monitoring of the burned area would consist of livestock use supervision, and vegetation monitoring.(for additional detail, refer to Section VII).

C. No Action Alternative

No emergency rehabilitation would be completed. Revegetation of the burned area would be allowed to occur from seed and plant material which remains in the soil. Livestock grazing would not be excluded from the Wildhorse and Bully pastures.

No monitoring of the burn area would be completed beyond that scheduled prior to the fire.

IV. AFFECTED ENVIRONMENT

A. Vegetation

The predominant vegetation was a native shrub steppe vegetation community consisting of Wyoming big sagebrush, rabbitbrush, bluebunch wheatgrass, Thurber's needlegrass, and Sandberg's bluegrass. Squawapple, an uncommon desirable shrub, occurred in isolated areas on sandy loamy soils through the burned area. Where native perennial herbaceous species were limited or devoid in the understory, cheatgrass and annual forbs occupied the site. In addition, where the native steppe vegetation had previously burned, an annual herbaceous plant community consisting of cheatgrass and tumble mustard now occupied those sites.

Thick, matted stands of cheatgrass and tumble mustard, typical of depleted rangeland, occurred adjacent to the east and southeast part of the fire. No effort had been made to rehabilitate the previously burned rangelands in these pastures within the past twenty (20) years.

B. Noxious Weeds

Scotch thistle, an aggressive biennial, is present in drainages throughout the burned area. Whitetop or hoary cress is also common within the annual rangeland community types and occurred throughout the burned and adjacent areas in uplands as well as valley bottom sites.

C. Livestock Grazing

The burn area is within the Allotment #2 and Bully Creek Allotments.

Table 3. Allotments and pastures; and private and BLM land burned within each pasture.

Allotment/Pasture	**Acres in Pasture**	**Acres Burned** **Prvt.**	**BLM**
Allotment #2 Wildhorse Pasture	10,223	7	313
Allotment #2 North Bully Creek Pasture	5,456	34	79
Bully Creek Allotment Bully Pasture	9,428	597	843
Total		638	1235

Three livestock permittees are authorized to graze livestock in the Allotment #2 community allotment, though only two currently use Wildhorse Pasture in their grazing rotation. One livestock permittee is authorized to graze in the Bully Creek Allotment that consists of only the Bully Pasture. Active AUMs by permittee within each allotment are listed:

Permittees who currently use the Wildhorse Pasture
Richard Jordan (J.R. Land & Livestock) 3,220 AUM
Ted Linville 204 AUM

Permittee who currently uses the Bully Pasture:
Richard Jordan (J.R. Land & Livestock) 980 AUM

Indian Creek Ranch is authorized to graze 4,551 Active AUMs within Allotment #2 outside the burned area.

D. Soils/Watershed

Soils in the area are derived from lacustrine sediments, loess deposits, and alluvium. Textures range from silty clay loams to sandy loams depending on the parent material. These soils have the potential to be highly erosive without vegetative cover and on steep slopes.
Soils in the burned area are similar to Xeric Haplocambids (Warden and Royal series), Xeric Haplodurids (Taunton and Gravden series), and Xeric Torriorthents (Kennewick and Wahluke series). Basalt rock is present on the soil surface throughout the burned area, especially on steep slopes.

The fire burned acreage in the Bully Creek and Snake River subbasins. Water flowing into Bully Creek flows into the Malheur River and eventually reaches the Snake River north of Ontario. The area is a low precipitation region with an average of 8 – 12 inches per year. It contains two ephemeral water courses that drain to the north into Bully Creek. All riparian habitat within the burned area occurs on private land and there are no known identified riparian and wetland areas on BLM land in the burned area.

E. Wildlife

The proposed treatment area is within year-long range or winter habitat for a number of wildlife species including mule deer and pronghorn antelope, upland game species, sage grouse, and other sagebrush dependent species. There are no wildlife species listed as threatened or endangered under the Endangered Species Act of 1973 in the proposed treatment area. Special Status Species includes: loggerhead shrike, burrowing owl, sage grouse, desert horned lizard, and Northern sagebrush lizard.

F. Recreation and Visual Resources

Dispersed outdoor recreation in the proposed fire rehabilitation area consists primarily of off highway vehicle usage and hunting of upland birds and big game animals. Some dispersed

general sightseeing occurs. The burn includes areas within visual resource management (VRM) Class IV. All of the proposed seeding is within a VRM class III area.

The objective of Class III is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

G. Cultural Resources / Paleontology

Prehistoric and historic use of this area has been documented by the presence of artifacts and through oral histories. Prehistoric sites are mainly lithic scatters and camp sites associated with springs and water sources. Historic use of the area is evident by the presence of solder top cans, ranching artifacts and oral history.

Surveys for fossil resources have located plant, animal and fish fossils, as well as petrified wood. Fish fossils are located in the lacustrine sediments dated to the Miocene and associated with the Deer Butte and Grassy Mountain Formations, and noted for diversity and abundance. Camel, horse, turtle, and sloth are among the species that may be located in sediments within the burn area as well as later species such as mammoth, mastodon, and bison.

H. Threatened and Endangered (T&E) Plants

No plant species listed under the Endangered Species Act of 1973 are known to be present within the area burned, although potential habitat for special status plants does exist in the sandy soils located in the southwest part of the burn that would not be rehabilitated. Three special status plant species that may occur are: Mulford's milk-vetch (Astragalus mulfordiae), Malheur forget-me-not (Hackelia cronquistii), and Malheur prince's plume (Stanleya confertiflora). The first two species are recognized as Species of Concern by the US Fish and Wildlife Service (USFWS).

The milk-vetch is listed as Endangered by the State of Oregon, and the forget-me-not is listed as Threatened by the State of Oregon. Both occur on the sandy hills within the Resource Area, with Mulford's milk-vetch growing at the summit of the sandy hills, and Malheur forget-me-not occurring on numerous north facing slopes throughout the sand hills. Mulford's milk-vetch is currently under status review for potential listing by USFWS. Malheur prince's plume is a Bureau Sensitive (BS) species. It occurs on odd ash-clay inclusions at known locations within the Resource Area. All three species are on Oregon Natural Heritage Program's List 1 (taxa endangered or threatened throughout their range)

I. Climate/Topography

The Wildhorse Fire occurred in rolling hills and rocky ridges where the elevation above sea level ranges from 2,600 feet to 3,000 feet. Semi desert shrub steep vegetation communities result from cold winters and hot dry summers. The long term average annual precipitation measured at is nine inches (National Oceanic and Atmospheric Administration Climatological Data Annual

Summary; Oregon 1997). Precipitation occurs primarily as snow fall during the winter with occasional mid summer thunder storms.

J. Other Mandatory Elements

The following mandatory elements are either not present or would not be affected by the proposed action or alternatives:

1. Air Quality
2. Native American Religious Concerns
3. Hazardous wastes
4. Prime or unique farmlands
5. Wild Horse/Burro Management
6. Wetlands/Riparian, Flood Plains
7. Environmental Justice
8. Wild and Scenic Rivers
9. Wilderness Study Areas
10. Areas of Critical Environmental Concern

V. ENVIRONMENTAL CONSEQUENCES

A. Proposed Action

1. Vegetation

The seeding would provide an opportunity and seed source for a more stable perennial vegetative cover, especially in annual grassland areas dominated by cheatgrass and areas impacted by noxious weeds such as white top and Scotch thistle. With successful establishment of the seeding, perennials would replace more flammable annuals, reducing the frequency of wildfire. Establishment of non-native perennial species would tend to form a moderate break in highly flammable vegetation, reducing future spread of wildfire.

Risk of poor establishment of native species, especially in the event of limited soil moisture in the spring of 2001 and competition from existing annual weed seed in the soil seed bank would be greater than the similar risk of planting crested wheatgrass or other non-native species which are adapted to drier conditions and are more competitive in the seedling stage. In addition, native seed would be difficult to acquire this year because of high demand as a result of the large amount of acres burned throughout the west this past summer. Wildlife habitat values and species diversity would be adequate with establishment of non-native species resulting from the proposed rehabilitation actions.

Temporary exclusion of livestock from the burned perennial grass areas, and areas seeded, would allow recovery of residual desirable species and establishment of seeded species without adverse impacts from cattle grazing.

2. Noxious weeds

Establishment of perennial species would help prevent the potential for spread and takeover of the site by noxious weeds, especially by Scotch thistle and whitetop. Full occupation of the soil profile with roots of desirable species would provide additional competition to reduce dominance by deep rooted weedy species. In addition, re-establishment of a diverse shrub component (i.e.Wyoming big sagebrush and squaw apple) would more fully occupy the soil profile with roots of desirable perennial species as compared to shallow rooted perennial grasses and forbs alone. Establishment of diverse perennial vegetation communities including grasses, forbs and shrubs would help prevent or minimize the proliferation and invasion of noxious weed species on private and BLM land within the burn A reduction in the occurrence of weeds would limit transport of seed to new sites within the burned area and offsite to adjacent BLM and private land.

3. Livestock Grazing

Livestock would be excluded from the burned area including areas proposed for seeding and planting through at least two growing seasons and/or until seeded species are established. For J.R. Land & Livestock, a 15% reduction in AUMs would occur during the period of time the burned area is closed to livestock grazing. Because only 2 and 3% of the North Bully and Wildhorse pastures burned, no reduction in livestock actual use is proposed. The permittee would maintain the proposed temporary fence during the times the livestock are grazing the pastures.

In the long term, positive benefits would accrue to livestock operators due to the establishment of perennial vegetation. An increased and more stable forage base with less frequent fire intervals would be established, allowing for a more stable livestock operations over the long term.

4. Soils/Watershed

Soil erosion will increase in the short term (5-10 years) as a result of loss of vegetative cover from the fire. Soil erosion rates would decrease as the perennial species gain dominance of the site in years subsequent to seeding. The annual species which previously vegetated the area provide much less protection of the soil surface than would desirable perennial species.

With implementation of this alternative and successful establishment of desired species, erosion rates would decrease further than under the no action alternative due to establishment of perennial species.

Perennial vegetation would reduce soil erosion and down stream sedimentation by providing improved protection of the soil surface and by reducing the frequency of wildfire.

5. Wildlife

The proposed action would result in the reestablishment and maintenance of higher quality and greater quantity of year-long forage, browse and cover for mule deer and pronghorn antelope within the proposed project area. Structural habitat for sagebrush dependent species, including sage grouse, would be restored in the long term (25+ years) with re-establishment of desirable shrub species (i.e. Wyoming big sagebrush and squawapple). Foraging and habitat values, provided by perennial herbaceous grass and forb species, would be improved. There are no known populations of T&E wildlife species; therefore no effect.

6. Recreation and Visual Resources

Impacts to dispersed recreation activities would be insignificant. In the event that rehabilitation activities occur during game hunting seasons, any game species close to the activities would be temporarily disturbed.

Visual resources within and adjacent to the proposed action would be enhanced with development of desirable perennial plant species and vegetation structure.
Surface impacts of the proposed rehabilitation efforts do not exceed management objectives for visual resource Class IV. Visual evidence of drilled seeding would remain evident long term, especially in non-native seedings.

7. Cultural Resources / Paleontology

A Class III cultural resources survey would be conducted prior to surface disturbing activities. Sites will be flagged, recorded and avoided as appropriate. A survey for paleo resources will be conducted prior to surface disturbing activities. If paleo resources are located, depending on the nature and extent of the fossil locality, the area will either be flagged and avoided during rehabilitation activities or the fossils will be recovered prior to rehabilitation activities.

8. T&E Plants

Special status plant species would not be affected since no activity is planned within suspected habitats or sites. Use of non-native species adjacent to the sandy ridge would better limit weed invasion into potential special status plant species habitat.

B. Limited Rehabilitation

1. Vegetation

Annual species and noxious weed species would continue to dominate sites within the burn with a mat of cheatgrass and tumble mustard. The potential for invasion of these sites and other sites opened to seedling establishment by noxious weeds, especially white top and scotch thistle, would remain high. In addition, the potential for repeated wildfire spread would also be high. The cumulative effects of past and future wildfire adjacent to this burn would cause a continued loss of vegetative diversity and structure.

Temporary exclusion of livestock from the burned area would allow recovery of residual desirable species without impacts from cattle grazing.

2. Noxious weeds

Annual grasslands and perennial sites would be susceptible to domination by noxious weeds found in and adjacent to the areas burned. Cheatgrass is a very competitive annual species and has the ability to limit the potential for successful seeding of desirable species. Scotch thistle and whitetop are aggressive and highly invasive species. With little competition from perennial grasses, forbs and shrubs, these weeds may dominate the burned area as they dominate adjacent rangelands that have burned in the past.

3. Livestock Grazing

Livestock would not be allowed to graze the burn area through two growing seasons as required by BLM policy. A temporary electric fence would be constructed in the Bully pasture and the water gap closed in the Wildhorse pasture in order to keep livestock from the burned area for two growing seasons. As a result, impacts to livestock grazing would be similar to those identified in the proposed action alternative. No long term benefits would occur as there would be limited long term improvement of forage production or vegetative conditions. Livestock production may be further negatively impacted in the long term if noxious weed species increase in the burn area and frequency of fires continue to rise, further reducing desirable forage production.

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4. Soils/Watershed

Soil erosion would increase in the short term as a result of loss of vegetative cover. Erosion rates would decrease as the annual species once again vegetate the site over a period of a year or two.

Soil erosion rates would remain higher than under the proposed action or any of the alternatives including seeding of desirable perennial species due to the lack of perennial vegetative cover.

5. Wildlife

Wildlife habitat and forage quality would improve very little. Desirable forbs, important to many wildlife species, would not be established in the burned area. The potential proliferation of highly competitive weeds would negatively impact the recruitment of desirable shrub species to reoccupy the area. The loss of shrub habitat would negatively affect big game and sagebrush dependant species long term.

6. Recreation and Visual Resources

The return of game species for hunting may be somewhat delayed. Increased dominance by undesirable annual and weed species would hinder efforts to improve game species habitat in the burned area.

Preferred perennial vegetation would not be restored in the short nor long term with the exception of those vegetation communities which would recover with protection from livestock grazing. There would be a significant delay in returning the area to an acceptable visual setting of some type of vegetative cover with structure similar to the natural setting.

7. Cultural Resources / Paleontology

There would be no affect to cultural resources from mechanized equipment as a result of the limited rehabilitation alternative, however surface disturbance may be greater long term from livestock trampling and erosional factors without vegetation to provide surface stability. Similarly, there would be no affect to fossil resources as a result of rehabilitation actions, however unauthorized collection and surface disturbance may be greater from livestock trampling and erosional factors without vegetation to provide surface stability

8. T & E Plant Species

No T & E species would be directly affected. However, as the area may be invaded by increasing numbers of noxious weeds, a much larger source of undesirable seed would be available for invasion into the potential special status plant species habitat.

Similarly, an increased dominance by annual species would increase fine fuel loading and the risk of larger future fires affecting nearby special status plant habitat.

C. No Action

1. Vegetation

Annual species and noxious weed species would continue to dominate sites within the burned area with a mat of cheatgrass and tumblemustard. The potential for invasion of these sites by noxious weeds would remain high. Potential for repeated wildfire spread would be high. The cumulative effects of past and future wildfire adjacent to this burn would caused a continued loss of vegetative diversity and structure which would accelerate with the no action alternative.

Continued authorization of livestock grazing within the burned area would delay and in many instances preclude recovery of residual desirable species with added impacts from cattle grazing.

2. Noxious weeds

The site would be susceptible to domination by noxious weeds found in and adjacent to the site.

Cheatgrass and tumblemustard are competitive annual species that have the ability to limit the successful reestablishment of desirable species. Scotch thistle and whitetop are aggressive and highly invasive species. With little competition from desirable grasses and forbs, these weeds will dominate the burned area and adjacent rangelands in the long term.

3. Livestock Grazing

Livestock would be allowed to continue to graze the burn area and benefit from a flush of growth resulting from the release of nutrients and moisture for annual herbaceous growth in the short term. As a result short term positive impacts to livestock grazing may occur with additional forage produced. However, no long term benefits would occur as there would be no improvement in sustainable or improved vegetation condition and diversity. Livestock production may be further negatively impacted in the long term if noxious weed species increase in the burn area and if the fire return interval is frequent, further reducing long term forage production.

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4. Soils/Watershed

Soil erosion would increase in the short term as a result of loss of vegetative cover. Erosion rates would decrease as the annual species revegetate the site over a period of a year or two. Soil erosion rates would remain higher than under the proposed action or any of the alternatives including seeding of desirable perennial species due to the lack of perennial vegetative cover.

5. Wildlife

Wildlife habitat and forage quality would not improve because a diversity of forbs would not occupy the site. The loss of forbs would negatively affect big game and sagebrush dependant species. Sagebrush and squawapple would have a more difficult time reestablishing themselves due to competition from annual grasses and forbs; except in those communities where a desirable stand of perennial grasses exists.

6. Recreation and Visual Resources

The return of game species for hunting may be somewhat delayed. Increased dominance by undesirable annual and weed species would hinder efforts to improve game species habitat in the burned area.

Preferred perennial vegetation would not be restored in the short nor long term with the exception of those vegetation communities which would recover with protection from livestock grazing. There would be a significant delay in returning the area to an

acceptable visual setting of some type of vegetative cover with structure similar to the natural setting.

7. Cultural Resources / Paleontology

There would be no affect to cultural resources from mechanized equipment as a result of the no action alternative, however surface disturbance may be greater from livestock trampling and erosional factors without vegetation to provide surface stability. Similarly, there would be no affect to fossil resources as a result of rehabilitation actions, however unauthorized collection and surface disturbance may be greater from livestock trampling and erosional factors without vegetation to provide surface stability

8. T & E Plant Species

No T & E species would be directly affected. However, as the area may be invaded by increasing numbers of noxious weeds, a much larger source of undesirable seed would be available for invasion into the nearby special status plant species habitat. Similarly, an increased dominance by annual species would increase fine fuel loading and the risk of larger future fires affecting nearby potential special status plant habitat.

VI. CONSULTATION AND COORDINATION

The Emergency Fire Rehabilitation Handbook (H-1742) recommends entering into cooperative efforts for rehabilitation where possible. Cooperators in the proposed rehabilitation effort resulting from the Wildhorse Spring Fire include private and government entities as follow:

A. Malheur County: Long term cooperative efforts between Malheur County and BLM to inventory and control existing and new infestations of weeds on public land will be extended to the burned area. This cooperative effort will enhance the probability of effectively controlling the establishment and spread of target species.

B. Allotment #2 and Bully Creek Permittees: Proposed rehabilitation actions were closely coordinated with grazing permittees.

Both permittees have agreed to exclude livestock grazing for two growing seasons, and any additional time determined necessary to ensure successful establishment of vegetation communities resulting from rehabilitation actions.

C. Oregon Department of Fish and Wildlife (ODF&W): Subsequent to submission of the Wildhorse Spring Fire Rehabilitation Plan, ODF&W was contacted to review and provide input into the EA/plan.

D. Idaho Watersheds Project: A copy of this EA/plan will be provided to this group based on their status as an interested public in the management of Allotment #2 and Bully Creek Allotment.

VII. MONITORING

A. Noxious weeds

Monitoring of the burned area for two years would be required to locate and control noxious weeds. Periodic ground surveys would be conducted monthly from May through October. Chemical and physical treatments would be implemented as appropriate and consistent with existing coordinated weed control methods to control detected noxious and weedy species and to ensure success of rehabilitation actions.

B. Vegetation

The burned area would be monitored for desirable perennial species, including ocular inspection, to determine degree and extent of establishment within seeded areas as well as vegetative recovery of non-seeded areas. Monitoring will be done in representative areas of seeding treatments and the untreated burned area in at least the first three years of the project. Monitoring will include photo plots and techniques to determine species occurrence, composition and vigor.

C. Livestock

Periodic use supervision will be conducted on the project area to ensure livestock are excluded during establishment and recovery of desirable vegetation on the burned area. Following two growing seasons of livestock exclusion, a determination will be made based on monitoring information when livestock grazing can be returned to the burned area and seedings.

VIII. SUMMARY

The Wildhorse Spring fire burned an area of moderately erosive soils that support scattered stands of highly flammable annual vegetation. The history of wildfire in adjoining rangeland has partially reduced year-long habitat of big game and sagebrush dependent species. In the absence of the establishment of desirable perennial species, within the burned area, there is potential for increased erosion, invasion of noxious weeds, loss of soil and repeated frequent wildfires. The proposed action would provide an opportunity to establish and enhance perennial vegetative cover that would protect the soil resource; reduce erosion; prevent noxious weed invasion; reduce sedimentation; enhance wildlife habitat, and reduce the threat of repeated wildfire.

IX. ANNUAL WORK PLAN SECTION

A cost/risk assessment is attached as Appendix 2. Listed below by fiscal year is a summary of EFR (2822) funding needs for the proposed action:

Table 4. Summary of EFR Funds needed for the proposed action.

Wildhorse Spring (N 077)		**FY**		
Description	**Item**	**2000**	**2001**	**2002**
Plan / EA Preparation	1.0 WM(Labor)	$4,000.		
Plan Administration	.5 WM(Labor)		$2,000.	
Seed Purchase/Transport/Treatment		$21,750	$20,500	
Section Corner Location	.5 WM(Labor)		$2,000.	
Cultural Survey	.5 WM(Labor)		$2,000.	
Rangeland Drilling	Equipment/Misc.		$13,000.	
	1.5 WM(Labor)		$6,000.	
Rehabilitation Monitoring	.25 WM(Labor)		$1,000.	$1,000.
Weed Monitoring	.25 WM(Labor)		$1,000.	$1,000.
Weed Treatment	Herbicide		$4,000.	$4,000.
	.5 WM(Labor)		$2,000	$2,000
Temporary Electric Fence	Equipment/Misc		$5,600	
	1.0 WMLabor		$4,000	
Temporary Fence Removal				$1,000
	Totals	**$25,750**	**$63,100**	**$8,000**

X. EFR PROJECT SUMMARY/PROPOSED ACTION

Fire Name: Wildhorse Spring Fire
Fire Number: N 077
Fire Control Date: 08/07/2000
Acres BLM Burned: 1,873
Start of Rehabilitation Project (Mo./Yr):09/2000
Completion of Rehabilitation Project (Mo./Yr): 09/2002
Miles of Temporary Fence: 4.0
No. of Soil/Watershed Structures: 0
Acres Reforestation: 0
Acres of Revegetation[1]: 600 acres public land and 400 acres private land
Acres of Burned Area Protected for Natural Regeneration[2]: 873
Total Acres Rehabilitated[3]: 1,873
Estimated EFR Funding Current Year (FY2000): $25,750
Estimated EFR Funding Second Year (FY2001): $63,100
Estimated EFR Funding Third Year (FY2002): $8,000
Total Cost Rehabilitation Project:$ 96,850.

XI. LIST OF PREPARERS/REVIEWERS

Tom Hilken	Range Management Specialist
Steve Christensen	Range Management Specialist
Bob Alward	Outdoor Recreation Planner
Jean Findley	Botanist
Diane Pritchard	Archaeologist
Shaney Rockefeller	Hydrologist/Soil Scientist
Al Bammann	Wildlife Biologist
Richard Martinez	Engineering Technician
Jerry Bourasa	Range Technician
Jerry Erstrom	Weed /Fire Rehabilitation Coordinator
Lynne Silva	Weed Coordinator/Malheur Resource Area
Barb Masinton	Fire Ecologist
Dave Evans	Force Account Work Leader
Tom Dabbs	Multi Resources Staff Supervisor
Roy Masinton	Field Manager, Malheur Resource Area

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[1] **Acres of Revegetation** refers to the acres of the burn that is drilled.

[2] **Acres of Burned Area Protected for Natural Regeneration** refers to burned areas that will recover to satisfactory vegetation with exclusion of grazing and/or human uses.

[3] **Total Acres Rehabilitated** equals the acres of revegetation plus acres of burned area protected for natural regeneration.

XII. ENVIRONMENTAL ASSESSMENT DECISION REPORT

Finding of No Significant Impact / Decision Record

On the basis of the information contained in this Environmental Assessment and all other information available, it is my determination that the proposed action and all alternatives are in conformance with the land use plan for Malheur Resource Area. The proposed action and all alternatives do not constitute a major federal action significantly affecting the quality of the human environment and therefore an environmental impact statement (EIS) is not required. It is my decision to implement the proposed action described in this EA (OR-030-00-018). In the event that seed availability is limited following extensive fires throughout the region and precludes the drilling of recommended species in this EA, use of similar varieties and cultivars will be implemented.

_____ _____

Authorized Official Date

Appendix 1
NON-NATIVE PLANT WORKSHEET
Proposed Non-native Plants in Seed Mixture

1. Is the use of non-native plants necessary to meet objectives, e.g., consistent with applicable landuse/activity plans?

Yes [X] No [ ] Rationale: The area identified for the non-native seed mix is largely dominated with cheatgrass and tumble mustard and is in an area of similar soils and climate where crested wheatgrass seedings have been successful. Non-native perennials would have a significantly improved chance of successful establishment and maintenance in these areas, given the intense competition of these annual invasive species.

2. Will non-native plants meet the objective(s) for which they are planted without unacceptably diminishing diversity and disrupting ecological processes (nutrient cycling, water infiltration, energy flow, etc.) in the plant community?

Yes [X] No [ ] Rationale: The proposed seed mix would significantly improve vegetative diversity and ecological processes by establishing perennial vegetation in areas dominated by annual invasive species. The probability for maintenance of desirable perennial species in areas adjacent and within annual grasslands and weed dominated areas will improve ecological processes.

3. Will non-native plants stay on the site they are seeded and not significantly displace or interbreed with native plants?

Yes [X] No [ ] Rationale: The proposed mix of non-native plants are species that have not been shown to significantly displace or interbreed with native plants. Crested wheatgrass is present on nearby rangelands without significant displacement or interbreeding with native plants.

Appendix 2

"Modified Cost - Risk Analysis"

Treatment	**Cost**
Revegetation	$61,250
Protective Fence.....	$ 9,600
Soil/Watershed Structures	$ -0-
All Other Costs (administrative, clearances, etc.)..	$26,000.
TOTAL	$96,850

Probability of Rehabilitation Treatments Successfully Meeting EFR Objectives

Treatments	Units	NA	%
Revegetation	1,000 acres		85
Non-native Drill Seeding	1,000 acres		85
Other		x	
Protective Fence to Exclude Grazing	4.0 miles		95
Soil/Watershed Structures		x	
Retention dams/structures		x	
Ripping, contour furrows, etc.		x	
Matting, watersheds cover, etc.		x	
Other-Clean culverts		x	

Risk of Resource Value Loss or Damage
Identify the risk (high, medium, low, none or not applicable (NA)) of unacceptable impacts or loss of resources.

No Action - Treatments Not Implemented (check one)

Resource Value	NA	None	Low	Mid	High
Unacceptable Loss of Topsoil				X	
Weed Invasion					X
Unacceptable Loss of Vegetation Diversity					X
Unacceptable Loss of Vegetation Structure					X
Unacceptable Disruption of Ecological Processes				X	
Off-site Sediment Damage to Private Property				X	
Off-site Threats to Human Life		X			
Other - Loss of Access Road		X			

Proposed Action - Treatments Successfully Implemented (check one)

Resource Value	NA	None	Low	Mid	High
Unacceptable Loss of Topsoil			X		
Weed Invasion			X		
Unacceptable Loss of Vegetation Diversity			X		
Unacceptable Loss of Vegetation Structure			X		
Unacceptable Disruption of Ecological Processes			X		
Off-site Sediment Damage to Private Property			X		
Off-site Threats to Human Life		X			
Other - Loss of Access Road		X			

SUMMARY

The costs of the project and probability of success of the proposed treatments are compared with the risks to resource values if: 1) no action is taken, and 2) the proposed action is successfully implemented. Alternatives may be included in this analysis to assist in the selection of the treatments that will cost effectively achieve the EFR objectives. Answer the following questions to determine which proposed EFR treatments should be selected and implemented.

1. Are the risks to natural resources and private property **acceptable** as a result of the fire if the following actions are taken?

Proposed Action Yes |_x| No |__| Rationale for answer: The threat of weed invasion will be reduced with a successful seeding. Also, the potential for soil erosion will be reduced. The threat of repeated wildfire will be reduced with a more diverse perennial vegetation that will meet wildlife needs and rangeland health standards. Seeding and fence reconstruction costs are satisfactory considering seed mixtures and demand. Land use plan objectives will be best met.

Limited Rehabilitation Alternative Yes |__| No |x_| Rationale for answer: The limited rehabilitation alternative would not reduce the threat of weed invasion, erosion and repeated wildfire. Wildlife habitat objectives and Rangeland Health Standards would not be met.

No Action Yes |__| No |x_| Rationale for answer: The threat of weed invasion, erosion and repeated wildfire will be increased without treatment. Wildlife habitat objectives and Rangeland Health Standards will not be met.

2. Is there probability of success of the proposed action, alternatives or no action acceptable given their costs?

Proposed Action Yes |x_| No |__| Rationale for answer: Recent non-native seedings on adjacent areas on similar soils and precipitation regimes have been successful under normal climatic conditions and protection from grazing for 2-3 growing seasons. Sites previously dominated by Wyoming sagebrush and annual species in the understory, have been successfully seeded to non- native species mixes.

Limited Rehabilitation Alternative Yes |__| No |_x| Rationale for answer: Adjacent areas with similar soils and vegetation that have not been seeded following fire or brush control have become monocultures of annual species that do not meet wildlife habitat and Rangeland Health needs. Failing to seed select portions of the burned area to adapted perennial species would result in similar unacceptable vegetation.

No Action Yes |__| No |x_| Rationale for answer: Adjacent areas with similar soils and vegetation that have not been seeded following fire or brush control have become monocultures of annual species that do not meet wildlife and Rangeland Health needs.

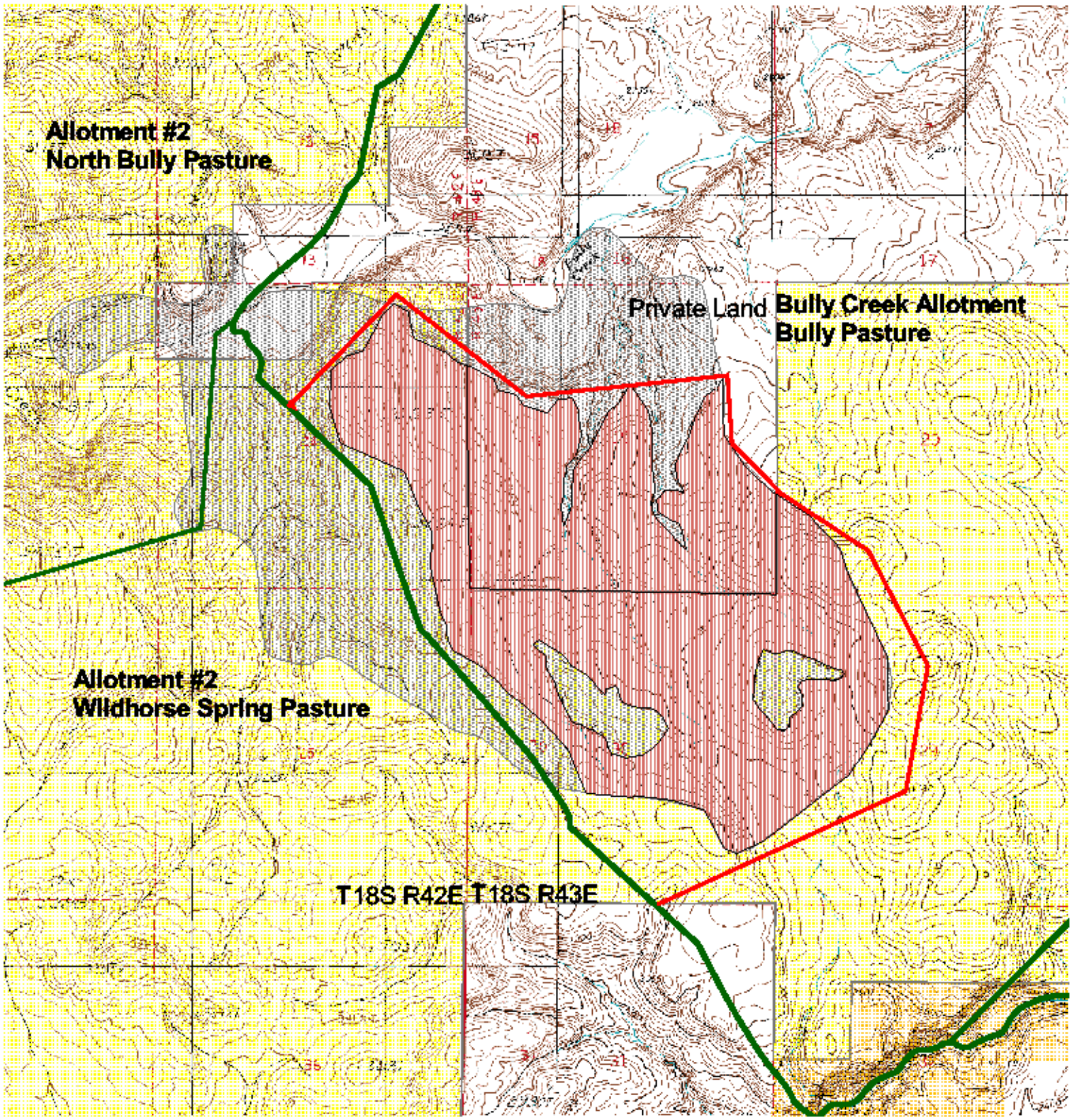
Fuel loading with fine fuels would increase, resulting in the potential for more rapid fire spread in the future. Failing to seed the burned area to adapted perennial species would result in similar unacceptable vegetation and increase the potential for increased frequency of fire return.

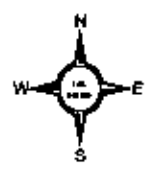
3. Which approach will most cost-effectively and successfully attain the EFR objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

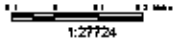
Proposed Action |x_|,
Limited Rehabilitation Alternative |__|,
No Action |__|

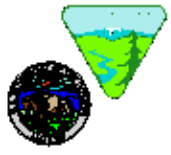
Comments: The proposed action best meets the need for reducing weed invasion and repeated wildfire while meeting land use plan objectives and providing for wildlife and rangeland health needs. Seeding of non-native perennial species would meet rehabilitation objectives. Native grass and sagebrush seed will probably not be available in this year of high demand.

Map 1
Wildhorse Spring Fire









Proposed Seeding
Pasture Boundary
Allotment Boundary
Proposed Temporary Fence
Wildhorse Spring Fire Boundary
Land Ownership
Bureau of Land Management
Private
State of Oregon